

REMARKS/ARGUMENTS

This Amendment responds to the Office Action mailed April 3, 2009. Claims 1-23 and 26-28 were pending in the application. Claims 1, 14, and 26 are amended to incorporate a majority of the subject matter of claims 12, 23 and 28, respectively, which the Office Action indicates would be as allowable in independent form. Allowable dependent claims 13 and 27 have been amended into independent form. Claims 9-11 and 22 are cancelled without prejudice or disclaimer. No new matter is added by way of the claim amendments. Thus, claims 1-8, 12-21, 23 and 26-28 are now pending for reconsideration.

Applicants gratefully acknowledge the indicated allowability of claims 12, 13, 23, 27 and 28 in the Office action of April 3, 2009.

Summary of the Office Action

In the Office Action, claims 1-11, 14-22 and 26 stand rejected as follows:

claims 1-7, 14- 20 and 26 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 4,534,221 to Fife et al. in view of U.S. Patent No. 7,396,332 to Taimisto;

claims 8 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,534,221 to Fife et al. in view of U.S. Patent No. 7,396,332 to Taimisto, and further in view of U.S. Patent No. 5,361,767 to Yukov;

claims 3, 6-7, 9, 11, 16, 19-20 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,534,221 to Fife et al. in view of U.S. Patent No. 7,396,332 to Taimisto, and further in view of U.S. Patent No. 6,332,507 to Passi et al.;

claims 9 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,534,221 to Fife et al. in view of U.S. Patent No. 7,396,332 to Taimisto, and further in view of U.S. Patent No. 5,301,674to Erikson et al.; and

claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,534,221 to Fife et al. in view of U.S. Patent No. 7,396,332 to Taimisto and one of either U.S. Patent No. 6,332,507 to Passi et al. or U.S. Patent No. 5,301,674to Erikson et al., and further in view of any one of U.S. Patent No. 6,095,976 to Nachtomy et al., U.S. Patent Pub. 2001/0020126 to Swanson et al., or U.S. Patent Pub. 2004/0039286 to Kuban et al.

In the Office Action, claims 12, 13, 23, 27 and 28 are objected to as depending from rejected based claims, but the Office Action indicates the claims would be allowable if rewritten in independent form.

The rejections are respectfully traversed based upon the foregoing amendments and the following remarks.

Response to the Rejections under 35 U.S.C. § 103(a)

Response re: Claims 1-8, 12, 14-21, 23, 26 and 28

As noted above, claims 1-7, 14- 20 and 26 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 4,534,221 to Fife et al. in view of U.S. Patent No. 7,396,332 to Taimisto.

In addressing the frequency limitations, the Office action relies on “[u]sing proper mathematics” to perform a linear calculation of frequency increments. However, Applicants respectfully submit that the frequency-depth relationship in ultrasound is not linear, but rather a logarithmic relationship. Thus, the analysis used to conclude that the increment by which the system would change frequencies would be a matter of design choice is incorrect.

Further, Applicants respectfully submit that one of skill in the art would not be motivated to substitute the catheter-based probe of Taimisto for the hemispherically-shaped annular array of Fife since such a combination is improper under M.P.E.P. § 2143.01. The intended purpose and principle of operation of Fife revolve around the focusing of the hemispherically-shaped annular array. As such, any modification that eliminates the hemispherically-shaped annular array would be improper as rendering the prior art invention unsatisfactory for its intended purpose. *See In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Also, any modification that eliminates the hemispherically-shaped annular array would be improper for changing the principle of operation of the prior art invention being modified. *See, In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Thus, the teachings of the references cannot be properly combined in the manner asserted, and therefore do not render the claims *prima facie* obvious.

Nevertheless, in the interest of expediting prosecution of the present application, Applicants have amended independent claims 1, 14 and 26 to include a majority of the

limitations of allowable claims 12, 23, and 28, respectively. These claims relate generally to figure 4 of the present application, which includes an imaging frequency change and a comparison of image resolution to check for improvement at 480, with two paths based on "yes" or "no." Presently-amended claims 12, 23 and 28 still encompass the same subject matter as the previously-allowed claims, but independent claims 1, 14, and 26 have been amended to include all of the limitations except the final "no" path result at 490 which is recited in claims 12, 23 and 28. Applicants respectfully submit that independent claims 1, 14 and 26, as well as claims 2-7 and 15-20 that depend therefrom, are now in condition for allowance. Accordingly, Applicants respectfully request withdrawal of the rejections of claims 1-8, 12, 14-21, 23, 26 and 28.

Response re: Claims 9, 11, and 22

Claims 9, 11, and 22 have been canceled, rendering the rejections moot.

Response re: Claims 13 and 27

Since claims 13 and 27 have been amended into independent form as suggested in the Office Action, Applicants request withdrawal of the rejections of claims 13 and 27.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request that all rejections be withdrawn and that a notice of allowance be forthcoming. The Examiner is invited to contact the undersigned for any reason related to the advancement of this case.

Respectfully submitted,



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